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| 10/522,451   | 02/11/2008  | Erkki Laiho          | 37488.01300US       | 8674             |
| 38647 7590 04/28/2010<br>MILBANK, TWEED, HADLEY & MCCLOY LLP<br>INTERNATIONAL SQUARE BUILDING<br>1850 K STREET, N.W., SUITE 1100<br>WASHINGTON, DC 20006 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| CHIN, HUI H  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 1796   |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/522,451

**Applicant(s)**

LAIHO ET AL.

**Examiner**

HUI CHIN

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 4-23, 26-36, 38 and 44-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-22, 26-36, 38, 44-46 and 48-53 is/are rejected.
- 7) ☒ Claim(s) 23, 47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The final rejection in the office action dated 2/19/2010 has been withdrawn.

1. The office action is in reference to the Amendment, filed on 11/30/2009. Claims 1, 4, 5, 11, 20-23, 29, and 34-34 have been amended and claims 2-3, 24-25, 37 and 39-43 have been canceled. Claims 44-53 have been added. Claims 1, 4-23, 26-36, 38 and 44-53 are now pending.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7-9, 12-15, 17-19, 31, 44-46 and 48-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahlstrand (US 2003/0149162).

Ahlstrand discloses a polymer composition comprising an ethylene homopolymer or an ethylene alpha-olefin copolymer, wherein the polymer is a bimodal polymer produced in a multistage process comprising i) 30-70 wt. % of a low molecular weight ethylene polymer and ii) 70-30 wt. % of a high molecular weight ethylene polymer or copolymer and a nucleating agent, wherein the low molecular weight polymer has a weight average molecular weight of about 5,000 – 50,000 g/mol and the weight average

molecular weight of about 5,000 – 10,000 g/mol reads on a wax, and the bimodal polymer has a density of 930-965 kg/m<sup>3</sup>, and the composition may contain talc (claims 1, 5, 7, [0019], [0029]).

The limitations of claim 4 can be found in Ahlstrand at claim 11, where it discloses the low molecular weight ethylene polymer having a weight average molecular weight of about 5,000-50,000 g/mol, the weight average molecular weight of about 5,000 – 10,000 g/mol reads on a wax.

The limitations of claim 7 can be found in Ahlstrand at abstract, where it discloses the bimodal polymer.

The limitations of claim 8 can be found in Ahlstrand at claim 14, where it discloses the high molecular weight ethylene polymer having a weight average molecular weight of between 300,000 and 1,000,000 g/mol.

The limitations of claim 9 can be found in Ahlstrand at claim 1 and abstract, where it discloses the HDPE.

Claims 12-14 are inherent properties.

The limitations of claim 15 can be found in Ahlstrand at claim 10, where it discloses the polydispersity between 20 and 40.

The limitations of claim 17 can be found in Ahlstrand at [0029], where it discloses the talc.

The limitations of claim 18 can be found in Ahlstrand at [0030], where it discloses the 100-2000 ppm of antioxidant.

The limitations of claim 19 can be found in Ahlstrand at claim 1, where it discloses the multistage process.

The limitations of claim 31 can be found in Ahlstrand at [0022], where it discloses the multi-stage process.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Sakamoto et al. (US Patent 5,346,926).

The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the additional polyolefin to be used.

Sakamoto et al. disclose a mixture by mixing 100 parts by weight of LDPE, 30 parts by weight of HDPE, and 1 part by weight of polyethylene wax having an average molecular weight of 2800 to improve compatibility of the mixture (Example 1). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific wax in the composition with the expected success.

6. Claims 6, 10, 26-30, 34-36 and 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Van Dun et al. (US Patent 7,129,296).

The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the lower molecular weight polymer having a density of lower than  $945 \text{ kg/m}^3$ .

Van Dun et al. disclose a polyethylene composition comprising a low molecular weight ethylene component having a density of greater than  $0.940 \text{ g/cm}^3$ , and a high molecular weight ethylene component, to make multilayer film to be extrusion coated onto a plastic substrate, and further comprising LDPE, to provide a bimodal polyethylene composition that exhibits improved durability and environmental (tensile) stress cracking resistance (claims 1, 3, col. 1, line 56, col. 2, line 51, col. 6, lines 1-2 and 33-34, col. 18, lines 53, 57, 66, col. 19, line 4, col. 20, line 47). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lower molecular weight polymer having a density of lower than  $945 \text{ kg/m}^3$  in the composition with the expected success.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific amount of filler.

The relative amount of filler will determine the mechanical properties of the polymer composition. The case law has held that "a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation". *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to achieve the relative amount of filler via the routine optimization process and thereby obtain the present invention.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Myhre et al. (US 2006/0014897).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific particle size of the filler.

Myhre et al. disclose a composition comprising a bimodal polyethylene composition and a particulate filler wherein the filler has an average particle size within the range of 0.1 to 4  $\mu\text{m}$  to provide a bimodal polyethylene composition used for breathable films having an improved mechanical strength (claim 1, [0002], [0039]). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific particle size of the filler in the composition with the expected success.

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Myhre et al. (US 2006/0014897).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific amount of comonomer unit.

Myhre et al. disclose a composition comprising a bimodal polyethylene composition containing 0.6 mol % of 1-butene to provide a bimodal polyethylene composition used for breathable films having an improved mechanical strength (claim 1, [0002], Table 1). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific amount of comonomer in the composition with the expected success.

10. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Garoff et al. (US Patent 5,770,540).

The disclosure of Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific process to be used.

Garoff et al. disclose a high activity procatalyst comprising an inorganic support, a chlorine compound carried on said support, a magnesium compound carried on said support, and a titanium compound carried on said support, wherein the chlorine compound is the same or different from the magnesium compound and/or the titanium compound to provide a catalyst with high activity for the production of ethylene polymers (claim 1, col. 2, lines 5-7). In light of such benefit, it would have been obvious to one of



ordinary skill in the art at the time the invention was made to use the specific process to make the composition with the expected success.

11. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Casey et al. (US Patent 6,110,552).

The disclosure of Ahlstrand is adequately set forth in paragraph 5 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific film coating line to be used.

Casey et al. disclose a composite release liner comprising a paper substrate and a polymer base layer applied on the substrate by a film coating line comprising an unwind, a wind, a chill roll and a coating die to make the multilayer material (claim 1, col. 4, lines 32-43). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the specific process to make the composition with the expected success.

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12. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahlstrand (US 2003/0149162), in view of Myhre et al. (US 2006/0014897).

The disclosure Ahlstrand is adequately set forth in paragraph 4 and is incorporated herein by reference.

However, Ahlstrand is silent on the specific film.

Myhre et al. disclose a composition comprising a bimodal polyethylene composition using a multi-stage polymerization process to provide a bimodal polyethylene composition used for breathable films such as cast film having an

improved mechanical strength (claim 1, [0002], Example 2, [0080]). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the cast film using the composition with the expected success.

#### ***Allowable Subject Matter***

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13. Claims 23 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of the record do not teach or fairly suggest the claimed polymer composition further comprises a polyolefin (1) as a second polymer (A), wherein the polyolefin (1) is a linear low density polyethylene (LLDPE).

#### ***Response to Arguments***

14. Applicants' arguments filed 11/30/2009 have been fully considered and are not persuasive.

The response has been addressed in the rejections.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUI CHIN whose telephone number is (571)270-7350. The examiner can normally be reached on Monday to Friday; 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/  
Primary Examiner, Art Unit 1796

/HC/